

FILE A - For Optional Classroom Use

Science and Technology:

Released Items A-2

Social Studies:

Released Items A-17

Mathematics:

Released Items A-32

Visual and Performing Arts:

Released Items A-45

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Science and Technology

Released Items

1. Which of the following is a function of the digestive system?

- ☐ A. providing support
- ☐ B. producing blood cells
- ☐ C. providing protection
- ☐ D. getting rid of wastes

Use the table below to answer question 2.

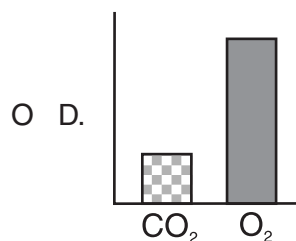
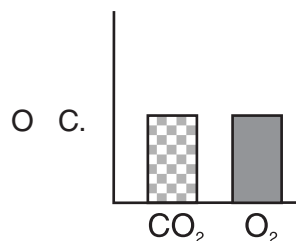
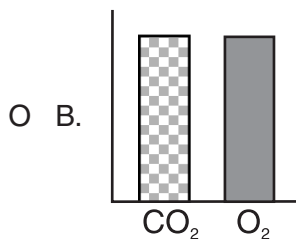
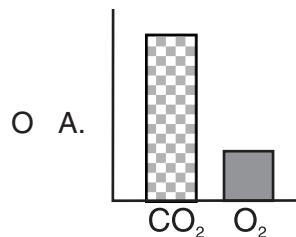
Boiling Points of Carbon Compounds

Name	Number of Carbon Atoms	Boiling Point
Ethane	2	-88°C
Butane	4	0°C
Hexane	6	69°C
Octane	8	126°C
Decane	10	174°C

2. Which of the following is the **best** estimate of the boiling point of heptane, a compound that contains seven carbon atoms?

- ☐ A. -40°C
- ☐ B. 35°C
- ☐ C. 95°C
- ☐ D. 150°C

3. Which graph shows the relative amounts of carbon dioxide and oxygen in the blood as it leaves the lungs through the pulmonary veins and travels to the heart?



Use the table below to answer question 4.

MINERALS WITH A METALLIC LUSTER

Mineral	Color	Streak	Hardness	Specific Gravity
graphite (C)	steel gray	black	1	2
galena (PbS)	silver gray	gray	2.5	7.5
chalcopyrite (CuFeS ₂)	golden yellow	greenish black	4	4.3
pyrite (FeS ₂)	brass yellow	greenish black	6	5
hematite (Fe ₂ O ₃)	steel gray	reddish brown	6	5.2
magnetite (Fe ₃ O ₄)	black	black	6	5.2

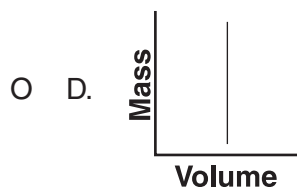
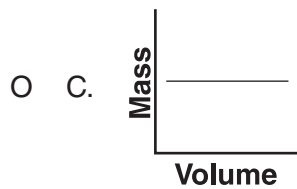
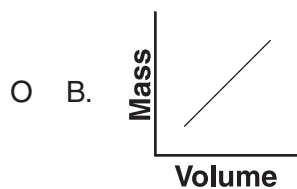
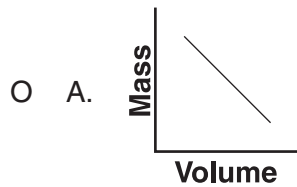
4. Which characteristic would be most useful in distinguishing a sample of hematite from the other minerals listed in the table?
- ☐ A. color
 - ☐ B. streak
 - ☐ C. hardness
 - ☐ D. specific gravity
5. There are no longer dark fur arctic bears, only white fur arctic bears. Which is the **best** explanation for the lack of dark fur bears in the Arctic?
- ☐ A. The white fur bears killed off all the dark fur bears in the Arctic.
 - ☐ B. Dark fur reflected the Sun's rays. This caused the dark fur bears to die of the cold.
 - ☐ C. Dark fur bears eat fish that are not available in the Arctic environment. They, therefore, eventually died of hunger.
 - ☐ D. Dark fur bears could easily be seen in the mostly white-colored Arctic environment. They were, therefore, less successful at catching prey than white fur bears.
6. To find out if radish plants grow better in store-bought soil than in her garden, Amy conducted an experiment. She grew twenty potted radish plants in store-bought soil next to a window in her house, and she compared them to twenty radish plants grown in her garden.
- In which way could she improve her experiment?
- ☐ A. by growing both groups of plants in the same place
 - ☐ B. by using fewer plants to be better able to make comparisons
 - ☐ C. by growing radishes in the garden but tomatoes in the store-bought soil
 - ☐ D. by adding store-bought soil on top of the garden soil

Use the data table below to answer question 7.

Three Mineral Samples

Mineral Sample	Mass (g)	Volume (cm ³)
1	30	10
2	60	20
3	90	30

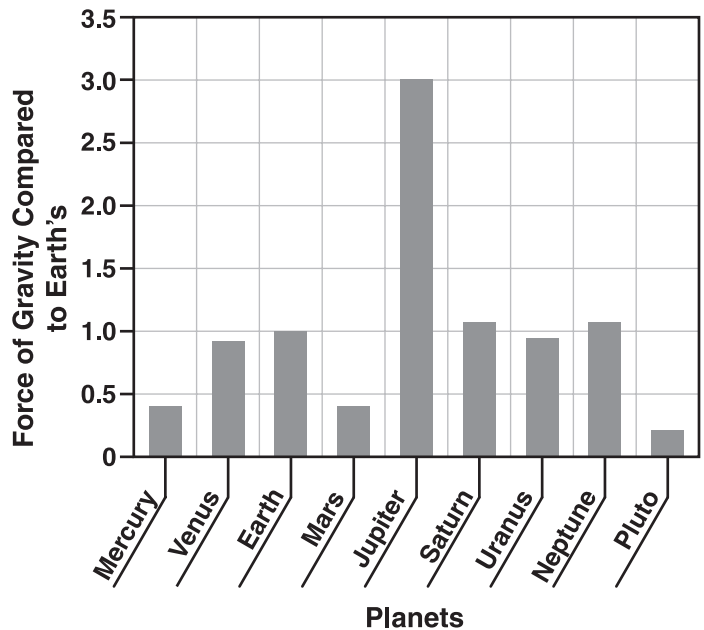
7. The table shows the mass and volume of three samples of the same mineral. Which graph **best** represents the relationship between mass and volume?



8. A giraffe's long neck is an example of
- ☐ A. selective breeding.
 - ☐ B. behavioral adaptation.
 - ☐ C. artificial selection.
 - ☐ D. structural adaptation.

Use the graph below to answer question 9.

Gravity on the Planets



9. If you weigh 100 pounds on Earth, how much would you weigh on Jupiter?
- ☐ A. 25 pounds
 - ☐ B. 50 pounds
 - ☐ C. 300 pounds
 - ☐ D. 500 pounds

Use the periodic table of the elements below to answer question 10.

Periodic Table of the Elements

<div><div>1 H 1.008</div><div>3 Li 6.94</div><div>11 Na 22.99</div><div>19 K 39.10</div><div>37 Rb 85.47</div><div>55 Cs 132.91</div><div>87 Fr (223)</div></div>												<div><div>2 He 4.003</div><div>4 Be 9.01</div><div>12 Mg 24.31</div><div>20 Ca 40.08</div><div>38 Sr 87.62</div><div>56 Ba 137.33</div><div>88 Ra 226.03</div></div>												<div><div>5 B 10.81</div><div>13 Al 26.98</div><div>31 Ga 69.72</div><div>49 In 114.82</div><div>67 Tl 204.37</div></div>												<div><div>6 C 12.01</div><div>14 Si 28.09</div><div>32 Ge 72.59</div><div>50 Sn 118.69</div><div>68 Zn 65.38</div><div>82 Pb 207.2</div></div>												<div><div>7 N 14.01</div><div>15 P 30.97</div><div>33 As 74.92</div><div>51 Sb 121.75</div><div>69 Bi 208.98</div></div>												<div><div>8 O 16.00</div><div>16 S 32.06</div><div>34 Se 78.96</div><div>52 Te 127.60</div><div>70 Po (209)</div></div>												<div><div>9 F 19.00</div><div>17 Cl 35.45</div><div>35 Br 79.90</div><div>53 I 126.90</div><div>71 At (210)</div></div>												<div><div>10 Ne 20.18</div><div>18 Ar 39.95</div><div>36 Kr 83.80</div><div>54 Xe 131.30</div><div>72 Rn (222)</div></div>											
<div><div>21 Sc 44.96</div><div>22 Ti 47.90</div><div>23 V 50.94</div><div>24 Cr 52.00</div><div>25 Mn 54.94</div><div>26 Fe 55.85</div><div>27 Co 58.93</div><div>28 Ni 58.70</div><div>29 Cu 63.55</div><div>30 Zn 65.38</div></div>												<div><div>39 Y 88.91</div><div>40 Zr 91.22</div><div>41 Nb 92.91</div><div>42 Mo 95.94</div><div>43 Tc (97)</div><div>44 Ru 101.07</div><div>45 Rh 102.91</div><div>46 Pd 106.4</div><div>47 Ag 107.87</div><div>48 Cd 112.41</div></div>												<div><div>73 Ta 180.95</div><div>74 W 183.85</div><div>75 Re 186.21</div><div>76 Os 190.2</div><div>77 Ir 192.22</div><div>78 Pt 195.09</div><div>79 Au 196.97</div><div>80 Hg 200.59</div></div>												<div><div>104 Unq (261)</div><div>105 Unp (262)</div><div>106 Unh (263)</div><div>107 Uns (262)</div></div>																																																											

*Lanthanide Series

58 Ce 140.12	59 Pr 140.91	60 Nd 144.24	61 Pm (147)	62 Sm 150.4	63 Eu 151.96	64 Gd 157.25	65 Tb 158.93	66 Dy 162.50	67 Ho 164.93	68 Er 167.26	69 Tm 168.93	70 Yb 173.04	71 Lu 174.97
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**Actinide Series

90 Th 232.04	91 Pa 231.04	92 U 238.03	93 Np 237.05	94 Pu (244)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (254)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)
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10. Na is to Cl as Li is to

- ☐ A. C.
- ☐ B. Al.
- ☐ C. Be.
- ☐ D. F.

11. As a scientist was hiking up a mountain, she found fossils of seashells in some of the rocks. Which is a reasonable conclusion she can make?

- ☐ A. The rocks were formed when molten lava was cooled.
- ☐ B. Shelled sea organisms once inhabited forested mountains.
- ☐ C. The rocks were formed in an ocean and later uplifted when the mountain was formed.
- ☐ D. The fossil seashells were carried up from an ocean and embedded in the rocks by strong winds.

12. Which of the following would cause a long-term (lasting thousands of years) change to Earth?

- ☐ A. spring flooding along the Saint John River
- ☐ B. a hurricane coming north from the banks of the Carolinas
- ☐ C. a volcano erupting such as Mount Pinatubo in the Philippines
- ☐ D. tornadoes spawned from cold and warm air clashing

13. By observing the characteristics of the Sun, people can learn more about

- ☐ A. stars.
- ☐ B. comets.
- ☐ C. distant planets.
- ☐ D. the Moon.

Use the table below to answer question 14.

Height of the ball when dropped	Height the ball bounces
1 foot	4 inches
2 feet	9 inches
3 feet	15 inches
4 feet	21 inches
5 feet	?

14. Yolanda dropped a ball from a height of one foot above the ground. She measured how high it bounced and recorded the data in the table above. She then dropped the ball from other heights, measured how high the ball bounced, and recorded these data in the table. The table contains all of the data that Yolanda collected.

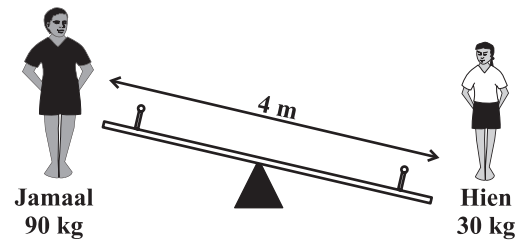
Based on the data in the table, about how high will the ball bounce when Yolanda drops it from a height of 5 feet?

- ☐ A. about 19 inches
☐ B. about 27 inches
☐ C. about 33 inches
☐ D. about 39 inches

15. The color of a person's eyes is determined before birth. Which statement is true?

- ☐ A. Eye color genes are transferred to offspring from male parents only.
☐ B. Eye color is determined through the asexual reproduction of bacteria.
☐ C. Eye color is determined by a mutation in the genetic code during fertilization.
☐ D. Eye color is transferred to offspring from parents on chromosomes that contain genes for that trait.

Use the diagram below to answer question 16.



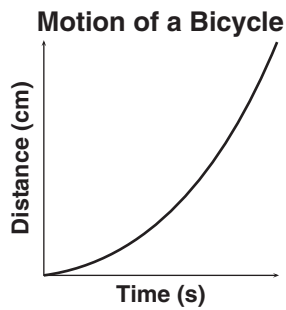
16. Jamaal and Hien want to use the teeter-totter. Where will Jamaal and Hien need to place the teeter-totter so that Hien can lift Jamaal?

- ☐ A.
☐ B.
☐ C.
☐ D.

17. A solid chunk of iron was left outside on a black-topped driveway on a very hot, sunny day. By mid-afternoon the chunk of iron will be

- ☐ A. a little smaller than before.
☐ B. a little larger than before.
☐ C. much smaller than before.
☐ D. much larger than before.

Use the graph below to answer question 18.



18. The best description for the motion of a bicycle in the above graph is that the bicycle

- ☐ A. is at rest.
- ☐ B. is speeding up.
- ☐ C. is slowing down.
- ☐ D. has a constant speed.

19. In which example are offspring produced that are identical to the parent through asexual reproduction?

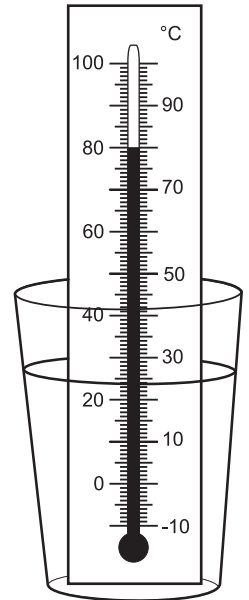
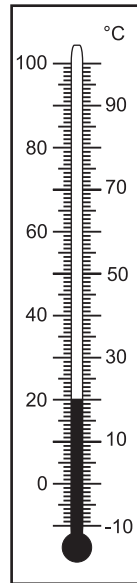
- ☐ A. A female frog lays eggs in the water. The male later fertilizes the eggs.
- ☐ B. A pollen cell and an egg cell from the same flower join to become a seed.
- ☐ C. A bud breaks off a yeast cell and becomes a new yeast cell.
- ☐ D. A sea star breaks off a leg and a new leg grows back.

20. Scientists compare layers of rock to each other in order to determine the

- ☐ A. relative age of rocks.
- ☐ B. composition of rocks.
- ☐ C. amount of fossils in rocks.
- ☐ D. chemical composition of rocks.

Use the pictures to the right to answer question 21.

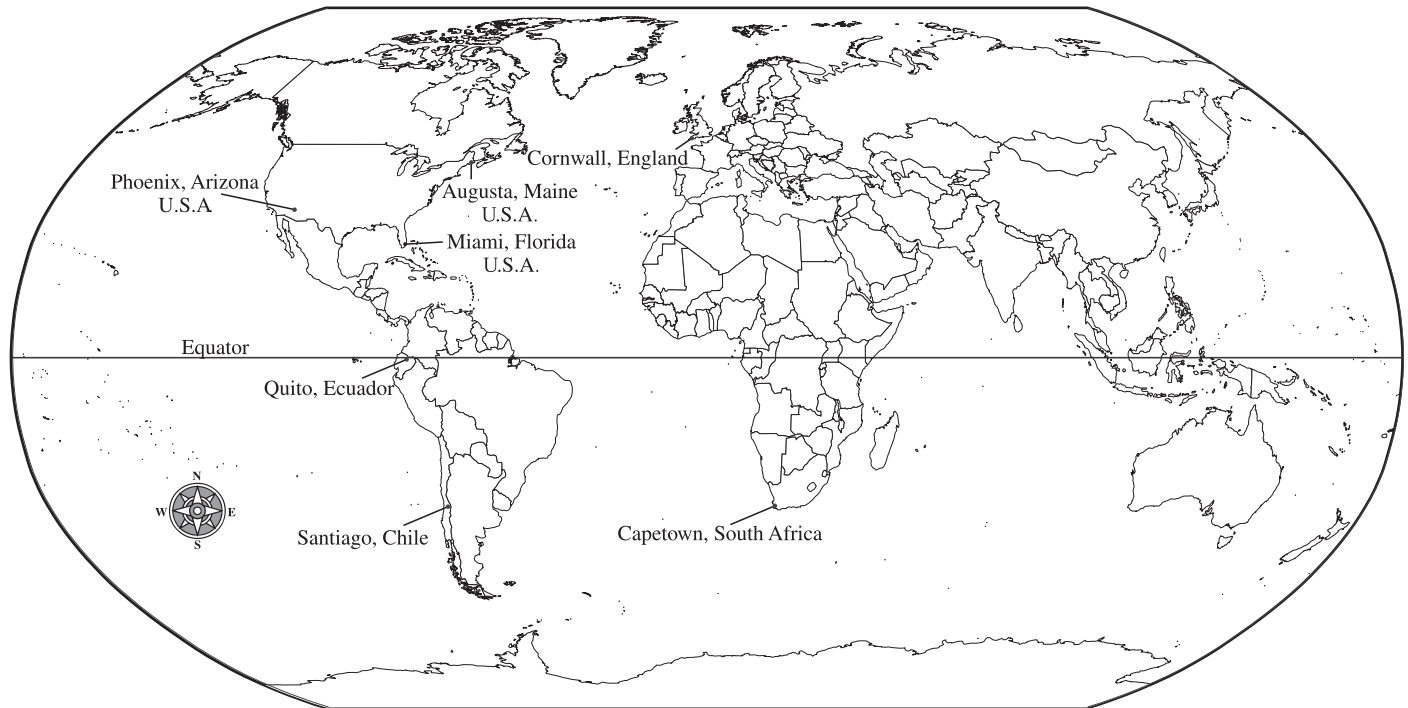
21. A thermometer at 20°C is placed in hot water. The column of liquid in the thermometer rises.
- What is the temperature reading on the thermometer in the hot water?
 - Explain what happens to the molecules of the liquid inside the thermometer when the thermometer is put into the hot water. Use the word “molecules” in your answer.



21.

Use the map and table below to answer question 22.

Locations of Schools Receiving NASA Bean Seeds



Location	# of Days
Miami, Florida, U.S.A.	5
Quito, Ecuador	5
Cornwall, England	6
Augusta, Maine, U.S.A.	8
Phoenix, Arizona, U.S.A.	9
Capetown, South Africa	11
Santiago, Chile	12

22. The National Aeronautics and Space Administration (NASA) gave bean seeds that had been on the space shuttle for three weeks to schools in different countries around the world. The schools were asked to determine the average germination time (the time it takes for the seeds to sprout) under natural, outdoor conditions. The schools then shared their data over the Internet. The table above shows what each school found.

Give **three** possible reasons for the differences in the data.

Answer #22 on the next page.

22.

23. Humans have been observing stars for thousands of years.

- List **two** things we know about stars today that we did not know 200 years ago.
- Describe **two** ways scientists gather information about stars today that were not possible 200 years ago.

23.

[illegible]

24. Discuss, in detail, **two** changes that were made in cities after the discovery that microorganisms caused disease.

24.

25. Which item does **not** come from a material in Earth's crust?

☐ A.



Clay pot

☐ B.



Tin can

☐ C.



Metal spoon

☐ D.



Wool sweater

26. Disease caused by microorganisms **cannot** be spread by

- ☐ A. exposure through air or water.
- ☐ B. mutation of genes.
- ☐ C. direct contact with animals.
- ☐ D. direct contact with an infected person.

27. Fossils of the fern *Glossopteris* have been found in Africa, Australia, Antarctica, and South America. How do scientists explain this observation?

- ☐ A. The wind blew the seeds across the oceans from continent to continent.
- ☐ B. The fern developed independently on each continent.
- ☐ C. The continents were at one time joined together and then moved apart.
- ☐ D. The fern had adaptations to survive the different environments of the continents.

Use the diagram below to answer question 28.

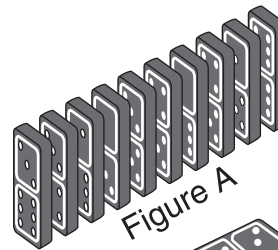


Figure A

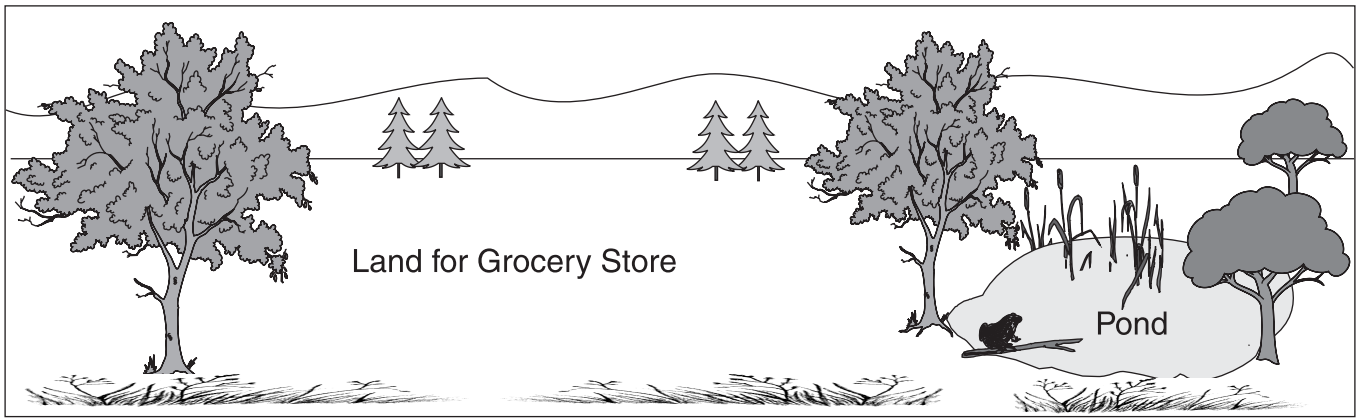


Figure B

28. Suppose there were ten dominoes standing in a row (Figure A) with a space between them smaller than the length of a domino. What would be the **direction** of a force used to make the dominoes fall from left to right as in Figure B?

- ☐ A. The force would be in the same direction as the motion.
- ☐ B. The force would be from the side.
- ☐ C. The force would be in the opposite direction to the motion.
- ☐ D. The force would be from above.

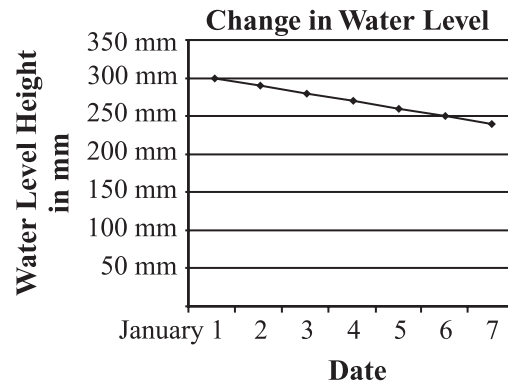
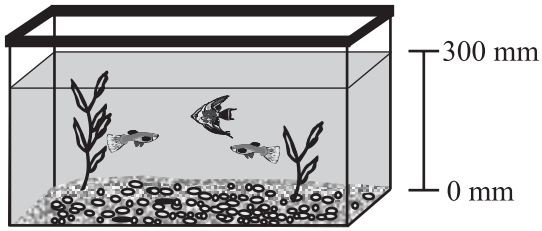
Use the picture below to answer question 40.



40. Favorite Food Grocery plans to build a new store on land beside a pond. Explain **three** ways this development could impact the life cycle of frogs in the pond.

40.

Use the picture and graph below to answer question 41.



41. Using scientific terminology, explain the change in the water level and describe the motion of the water molecules during that change.

41.

Social Studies

Released Items

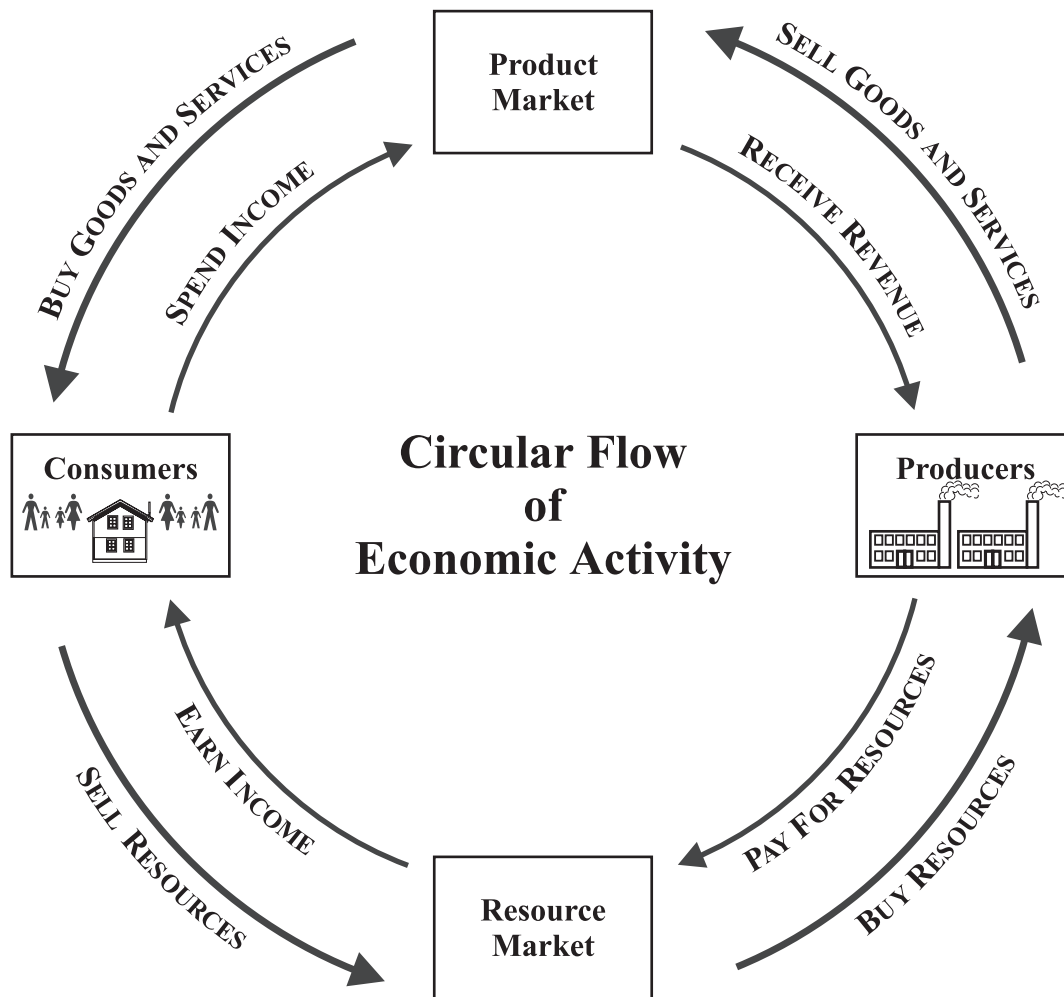
Use the illustration below to answer question 1.



1. This Paul Revere illustration, widely distributed in colonial America, was meant to show
- ☐ A. British brutality against American colonists in Boston.
 - ☐ B. American colonists' brutality against the British in Boston.
 - ☐ C. the evils associated with the British forcing American colonial sailors into service.
 - ☐ D. the evils associated with the Americans forcing British sailors into service.

2. The government of the United States is called a republic. This form of government is one that
- ☐ A. is run by a Republican party.
 - ☐ B. is made up of several city-states.
 - ☐ C. is headed by a president with unlimited power.
 - ☐ D. is ruled by representatives elected by the people.
3. A nation's economy has a direct impact on trade. If the value of the Canadian dollar drops, how would trade between the United States and Canada **most likely** be affected?
- ☐ A. United States producers would make fewer goods.
 - ☐ B. Canadian producers would make fewer goods.
 - ☐ C. United States citizens would buy more Canadian goods.
 - ☐ D. Canadian citizens would buy more United States goods.
4. In the early 1800s, industry started to develop in Maine. All of the following were typical immediate effects of industrialization **except**
- ☐ A. an increase in Maine's imports and exports from other states.
 - ☐ B. the growth of a major tourist industry.
 - ☐ C. an increased migration of French Canadians to Maine.
 - ☐ D. the growth in numbers of young people leaving farms to work in factories.

Use the diagram below to answer question 5.



5. Based on the diagram, which statement is true?
- ☐ A. The flow of money between businesses and consumers never stops.
 - ☐ B. Consumers do not sell labor and materials to businesses.
 - ☐ C. Producers pay consumers for goods and services.
 - ☐ D. Consumers do not depend on business for jobs.

Use the quotation below to answer question 6.

I have a dream that one day this nation will rise up and live out the true meaning of its creed: "We hold these truths to be self-evident: that all men are created equal."

6. Martin Luther King Jr.'s 1963 "I Have a Dream" speech quoted from which United States document?
- ☐ A. the Mayflower Compact
 - ☐ B. the Declaration of Independence
 - ☐ C. the Pledge of Allegiance
 - ☐ D. the Gettysburg Address
7. The United States has experienced many waves of immigration. In the mid-1800s, the greatest number of immigrants to the United States came from
- ☐ A. Europe.
 - ☐ B. Asia.
 - ☐ C. South America.
 - ☐ D. Australia.

Read the quote in the box below. Then answer question 8.

"The Yankee army invaded our town. My house is burned. The crops are dead and my workers have been freed."

8. Who most likely said this?
- ☐ A. a New England fisherman
 - ☐ B. a Southern plantation owner
 - ☐ C. an African American slave
 - ☐ D. a Northern industrialist

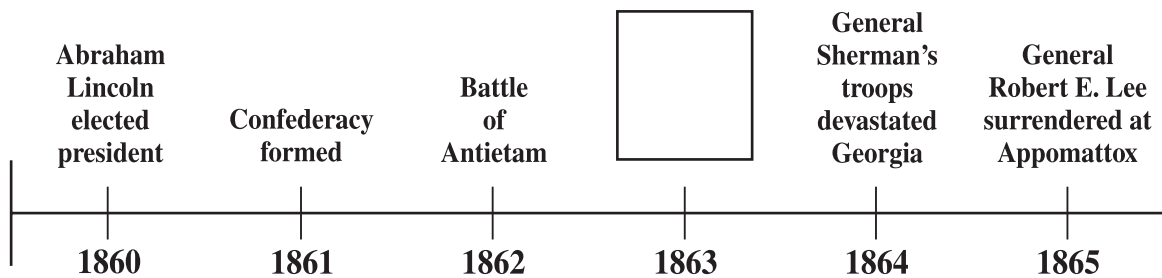
9. There are several different types of economic systems. What is the name of the economic system that relies primarily on supply and demand to determine what to produce, how to produce, and for whom to produce?
- ☐ A. market economic system
 - ☐ B. barter economic system
 - ☐ C. command economic system
 - ☐ D. traditional economic system
10. In a country with an authoritarian government, there are no restrictions on what its leaders can do. Which of the following best describes such a country?
- ☐ A. a democracy with a constitution
 - ☐ B. a nation with a dictator
 - ☐ C. a republic with a bill of rights
 - ☐ D. a monarchy with a constitution

Study the statements below to answer question 11.

- The political leader was called the Caliph.
- They believed that all people were equal in the eyes of Allah.
- Their houses of worship, mosques, were filled with beautiful artwork.
- They both saved and spread the scientific and philosophical works of ancient civilizations.
- They passed on the numbering system from India, which became known as the "Arabic" system.

11. These statements describe
- ☐ A. Chinese civilization.
 - ☐ B. Egyptian civilization.
 - ☐ C. Islamic civilization.
 - ☐ D. Roman civilization.

Use the time line below to answer question 12.



12. Which event belongs in the empty box?

- ☐ A. Fugitive Slave Act proposed
- ☐ B. Emancipation Proclamation issued
- ☐ C. Reconstruction Acts passed
- ☐ D. Fourteenth Amendment passed

Use the list below to answer question 13.

- joining a political party
- writing to congressional representatives
- researching important issues
- voting

13. For the United States government to function effectively, different people participate in different activities. If you were to do the activities listed above, what role would you **most likely** be filling?

- ☐ A. citizen
- ☐ B. investor
- ☐ C. president
- ☐ D. entrepreneur

14. People take on different roles in the economy. Which example **best** describes a consumer?

- ☐ A. a mechanic repairing a car
- ☐ B. an employee depositing a paycheck
- ☐ C. a farmer planting a field of wheat
- ☐ D. a child buying an ice-cream cone

15. People have come up with ways to divide Earth into different kinds of regions. The statements below describe one type of region.

- Earth is divided into 24 of these regions.
- Each region is the same size and is 15 degrees wide.

Which type of region do these statements describe?

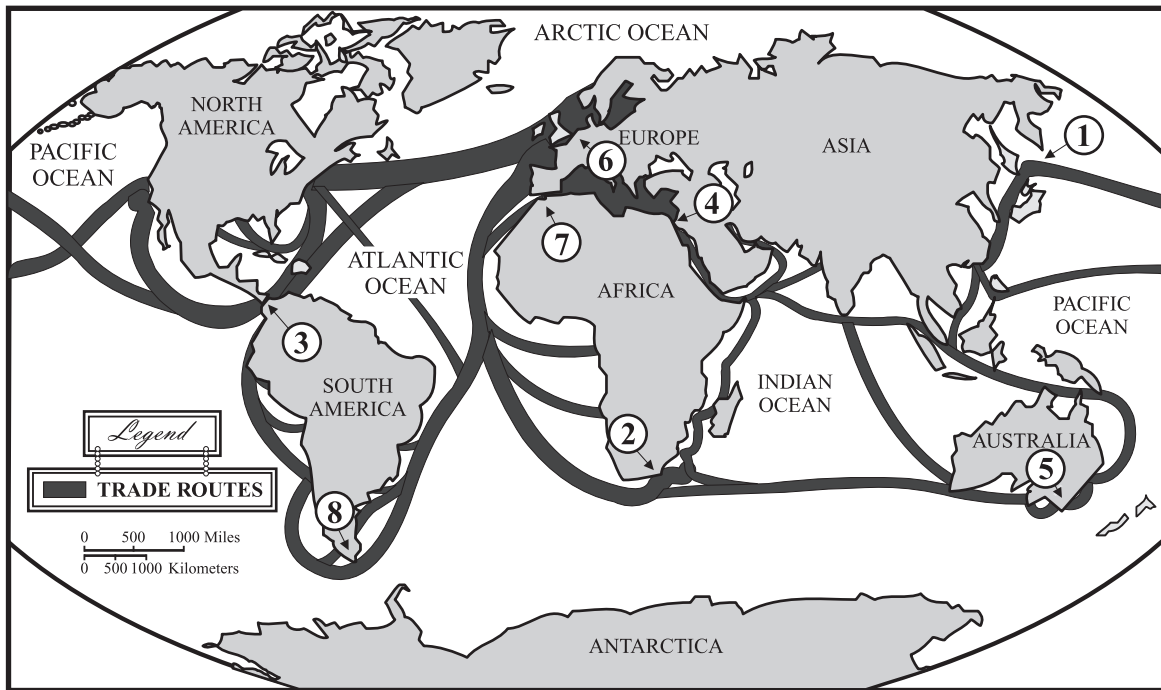
- ☐ A. scale
- ☐ B. time zone
- ☐ C. map projection
- ☐ D. continents

16. The number of representatives in the United States House of Representatives from each state is determined by the

- ☐ A. number of counties in the state.
- ☐ B. land area of the state.
- ☐ C. regional location of the state.
- ☐ D. population of the state.

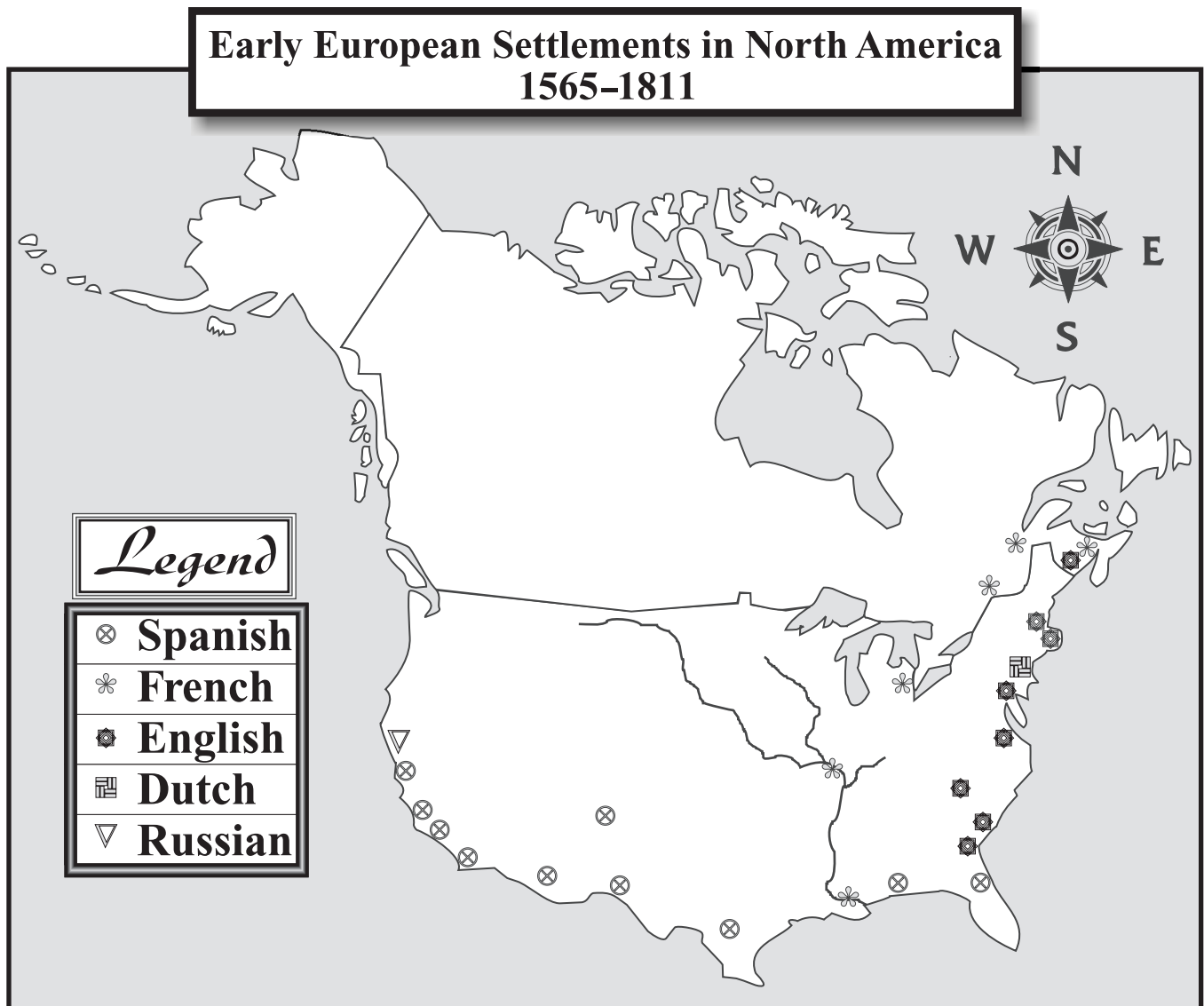
Use the map below to answer question 17.

Major Ocean Trade Routes



17. The building of the Panama Canal and the Suez Canal helped make the major ocean trade routes what they are today. Which numbers on the map indicate the locations of the Panama and Suez Canals?
- ☐ A. 1 and 2
 - ☐ B. 3 and 4
 - ☐ C. 5 and 6
 - ☐ D. 7 and 8
18. The president of the United States has many foreign policy powers. Which is a foreign policy power granted to the president by the U.S. Constitution?
- ☐ A. convening the United States Congress
 - ☐ B. deciding if treaties with other countries are constitutional
 - ☐ C. serving as official ambassador to the United Nations
 - ☐ D. making treaties with other countries
19. Ravi needs to buy a new shirt. He has found several shirts that he likes. Which of the following would help him make the **most informed** decision on which shirt to buy?
- ☐ A. Rely on habit.
 - ☐ B. Let a friend decide.
 - ☐ C. Read the label.
 - ☐ D. Follow an impulse.

Use the map below to answer question 20.



20. According to the map, which statement **best** describes European settlement patterns in North America?

- ☐ A. The Dutch settled along the Pacific coast of North America.
- ☐ B. The French settled along interior waterways of North America.
- ☐ C. The Spanish settled along the Atlantic coast of North America.
- ☐ D. The English settled along the mountain ranges of North America.

21. Think about the first European settlers who lived in the area of present-day Maine.

a. Describe how the early settlers met **each** of the following basic economic needs.

- food
- clothing
- shelter

b. Describe how people in your community today meet **each** of the following basic economic needs.

- food
- clothing
- shelter

21.

[illegible]

Read the excerpts below to answer question 22.

Source 1

The “radical” or “patriotic” element grew bolder and more extravagant. In Boston the jeering and baiting of the British “lobsterbacks” as they guarded the customs house reached a violent climax when, on March 5, 1770, snowballing turned into a mob attack. Largely in self defense, shots were fired and three Bostonians fell dead in the snow. The incident was promptly transformed by the colonial agitators into the “Boston Massacre” and was solemnly celebrated each succeeding year.

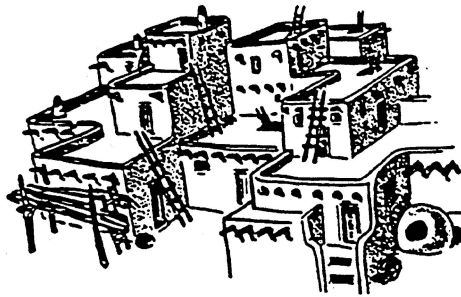
Source 2

. . . About the same time that Parliament repealed the Townshend duties, a group of Bostonians, who of course could not know of the repeal, threatened a British sentry [guard], and Captain Thomas Preston and several soldiers came to his aid. Led by Crispus Attucks, the townspeople refused to disperse. Instead they threw snowballs and called the soldiers names. In the confusion that followed, soldiers fired into the crowd, killing five persons and wounding six others.

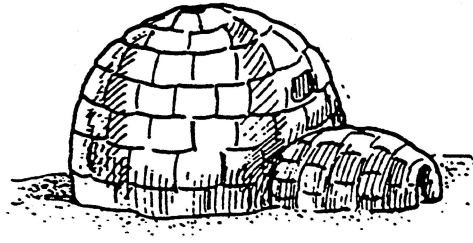
22. The two sources give different accounts of what happened at the Boston Massacre.
- Describe **two** major differences between the accounts of the Boston Massacre.
 - One account came from an American textbook and the other from a British textbook. Identify which source was **most likely** from a British textbook.
 - Identify **two** specific details from this account and explain how each one helps to prove that it was from a British textbook.

22.

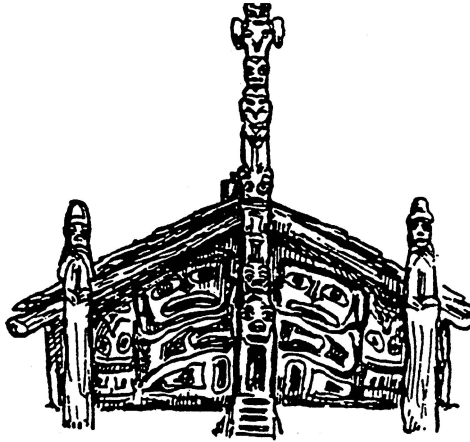
Use the drawings of Native American dwellings below to answer question 23.



1



2



3



4

23. Native Americans constructed a wide range of dwellings to adapt to their environments.
- Choose any **two** of the four dwellings above and write their numbers down. Describe the region of the country where **each** typically was built.
 - Choose **one** of the dwellings and fully explain **two** ways the dwelling reflects the influence of the physical environment in that region.

Answer #23 on the next page.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

24. You have been asked to write a short article for the school newspaper about the rights and responsibilities of students.
- Describe **two** important rights of students at your school that you would include in the article.
 - Describe **two** important responsibilities of students at your school that you would include in the article.
 - Explain **two** reasons why it is important for students to exercise their rights and responsibilities at school.

24.

Use the chart below to answer question 25.

Comparison Shopping for Lenses for Eyeglasses

Types of Lenses	Features	Quality	Warranty	Price
Glass	Heavy, shatter easily when dropped or hit	Resists scratching	5 years	\$55 to \$75
Simple Plastic	Lightweight, will not shatter	Scratches easily	6 months	\$55 to \$75
High-Index Plastic	Thinnest plastic; filters U.V. rays	Resists scratching	10 years	\$90 to \$140
Polycarbonate	Unbreakable; filters U.V. rays	Scratches without special coating	Lifetime	\$70 to \$100

25. According to the information gathered in this chart, which is an incentive for buying the polycarbonate lenses over the other options?
- ☐ A. They are the least expensive.
 - ☐ B. They resist scratching.
 - ☐ C. They are made of heavy plastic.
 - ☐ D. They have a lifetime warranty.

26. An important reason why the Roman Empire was able to govern its vast territories was because it
- ☐ A. maintained a strong army that enforced the laws.
 - ☐ B. allowed all adults the right to approve the laws.
 - ☐ C. was led by a king and queen who had great power.
 - ☐ D. was the first country to develop a written language.

27. In the areas of North Africa and Southwest Asia (Middle East) where there is plenty of available water, the **main** economic activity is
- ☐ A. mining.
 - ☐ B. manufacturing.
 - ☐ C. farming.
 - ☐ D. nomadic herding.

28. What is the **first** step in the process by which a bill becomes a law?
- ☐ A. The bill is sent to the president for signature or veto.
 - ☐ B. The bill is introduced by a representative or a senator.
 - ☐ C. The bill is sent by a committee to Congress for a vote.
 - ☐ D. The bill is approved by the states and then sent to Congress.

40. The ACME Manufacturing Co., which makes computer chips, wants to build a factory next to your school. People in your community are concerned about building a factory so close to a school. At a public hearing next week, people will have a chance to ask questions and express their concerns about the proposed factory's location.
- Write **two** questions that deal with important environmental concerns about the factory location that citizens should ask officials from the ACME Manufacturing Co.
 - Take the role of someone who either supports or opposes the building. Write which point of view you chose.
 - Defend your position by stating and fully explaining **two** reasons why you support or oppose building the factory.

40.

Use the list below to answer question 41.

George Washington Carver
Frederick Douglass
Jackie Robinson
Rosa Parks
Sojourner Truth
Harriet Tubman
Martin Luther King Jr.

41. African Americans have made a difference in the history of the United States.
- Choose one person from the list and write down the name of the person you chose.
 - Describe what the person did to make himself/herself well-known.
 - Explain how this person made a difference in United States history.

41.

Mathematics

Released Items*

*Students were not allowed to use a calculator to answer items 1 through 5, 9 through 13, 16, and 17. Students could use a calculator for all other mathematics items.

1. Each band member had 12 tickets to sell to the spring concert.

Jamie sold $\frac{2}{3}$ of his tickets.

Kim sold $\frac{1}{2}$ of hers.

Matt sold $\frac{3}{4}$ of his.

Rhonda sold $\frac{7}{12}$ of hers.

Who sold the most tickets?

- ☐ A. Jamie
☐ B. Kim
☐ C. Matt
☐ D. Rhonda

2. 49% of 840 is

- ☐ A. a little less than 350.
☐ B. a little less than 420.
☐ C. a little more than 420.
☐ D. a little more than 650.

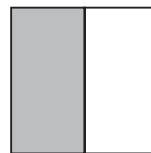
3. When you multiply $\frac{9}{10}$ and $\frac{8}{9}$, the product is

- ☐ A. between 0 and 1.
☐ B. between 1 and 2.
☐ C. between 2 and 3.
☐ D. greater than 3.

4. The total land area of Maine is 33,215 square miles. Maine's largest county, Aroostook, is 6,453 square miles. Approximately what percent of the land area of Maine is in Aroostook County?

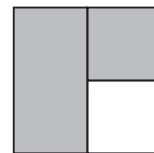
- ☐ A. 10%
☐ B. 20%
☐ C. 30%
☐ D. 40%

The first three terms of a pattern are shown below. Use the pattern to answer question 5.



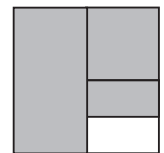
Term 1

$$\frac{1}{2}$$



Term 2

$$\frac{3}{4}$$



Term 3

$$\frac{7}{8}$$

5. Which fraction would describe the shaded portion of Term 4?

- ☐ A. $\frac{31}{32}$
☐ B. $\frac{19}{20}$
☐ C. $\frac{17}{18}$
☐ D. $\frac{15}{16}$

9. Maria surveyed the 28 students in her class to see which color walls they preferred for their classroom. The data she collected are shown below.

Tan	Blue	Tan	Green	Yellow	Tan	Tan
Blue	Tan	Tan	Tan	Green	Blue	Tan
Tan	Tan	Yellow	Green	Blue	Tan	Blue
Green	Tan	Tan	Blue	Green	Tan	Blue

Construct a chart or table that tells how many students selected each color.

9.

10. Each student in the Hiking Club got a new set of uniforms. Each set consisted of the following:
- 2 jackets: one blue, the other yellow
 - 3 T-shirts: white, blue, and yellow
 - 2 pairs of shorts: blue and black
- a. How many different complete outfits are possible? (A complete outfit consists of 1 jacket, 1 T-shirt, and 1 pair of shorts.)
- b. How many outfits are possible if no two pieces are the same color?

10.

Use the figures below to answer question 11.

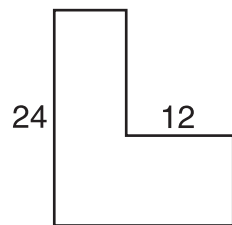


Figure A

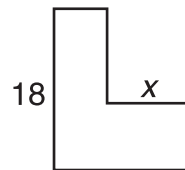


Figure B

11. Figure A and Figure B are **similar**. Find the length x . Show your work or explain your answer.

11.

12. A traveler drove 65 miles per hour on Interstate 95.

a. Complete the table in your Student Response Booklet.

Hours Driven	Miles Traveled
4	
5	
6	

b. Based on your table, write an equation that relates distance traveled and travel time.

12.

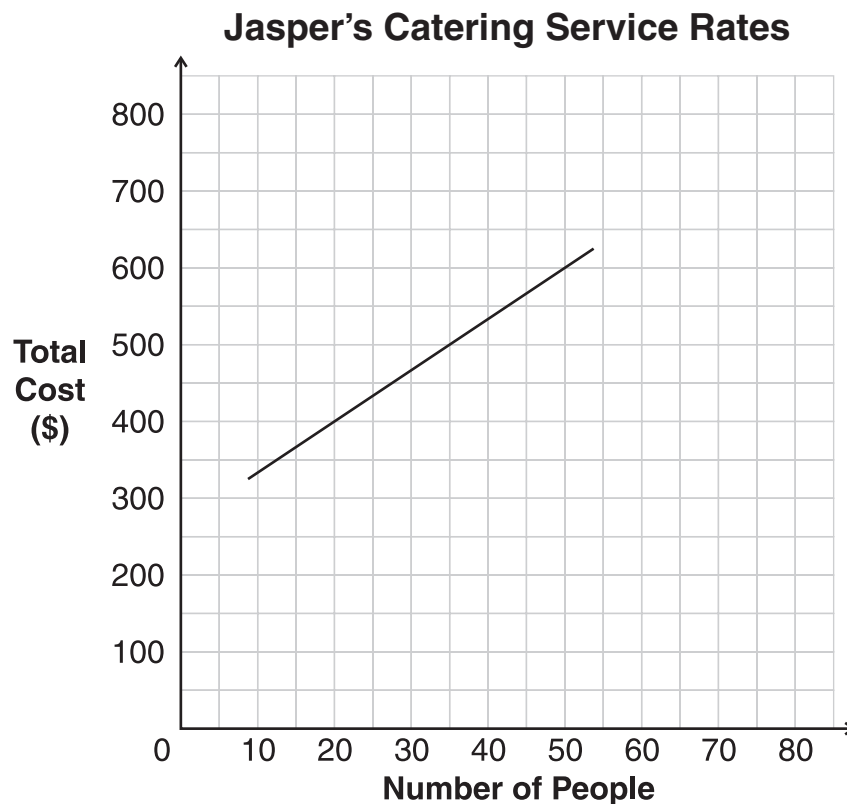
Hours Driven	Miles Traveled
4	
5	
6	

13. Graph the solution of the inequality below on a number line. Show the steps you used to solve this inequality.

$$x + 5 > 2$$

13.

16. Lindy collected information to help her eighth-grade class plan its graduation dinner dance. Jasper's Catering Service provided her with the following graph of costs.

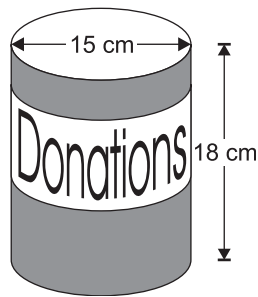


- According to the graph, what is the cost of a party for 50 people?
- The class has \$500 and there are 24 students in the graduating class. Use the graph to tell how many additional guests they can afford to invite to the dinner. Show your work or explain your answer.
- If the class decides to invite two guests per student, how much money (beyond the \$500 they already have) will they have to earn to pay for the catering service? Show your work or explain your answer.

Answer #16 on the next page.

16.

Use the diagram below to answer question 17.



17. Your class is collecting donations for the new computer lab. You have been asked to make a label to wrap around the side of the donation container, which is shown above. The label ends should just meet at the back of the container; that is, there should be no overlap.

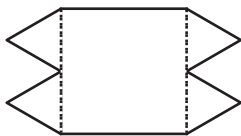
Draw the 2-dimensional (flat) label. The drawing does not need to be drawn to scale. Label the length of each side to the nearest centimeter.

Show or explain how you found the lengths.

17.

19. Which of the following patterns could be folded to form a square-based pyramid?

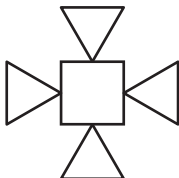
☐ A.



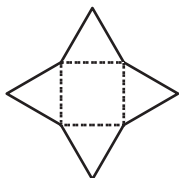
☐ B.



☐ C.



☐ D.



20. Which expression tells how much money a shopper has left if x represents the amount the shopper started with and s represents the amount spent?

- ☐ A. $s - x$
☐ B. $s + x$
☐ C. $x - s$
☐ D. $x \div s$

Use the picture shown below to answer question 21.

$2\frac{1}{2}$ in.



$1\frac{1}{4}$ in.

21. Marc wants to put the picture in the school newspaper in a space that is 5 inches tall. If he enlarges the picture proportionally so it is 5 inches tall, how wide will it be?

- ☐ A. $3\frac{3}{4}$ in.
☐ B. $3\frac{1}{2}$ in.
☐ C. $2\frac{3}{4}$ in.
☐ D. $2\frac{1}{2}$ in.

22. What is the solution to this equation?

$$2(x + 3) = 8$$

- ☐ A. 1
☐ B. 2
☐ C. $2\frac{1}{2}$
☐ D. 3

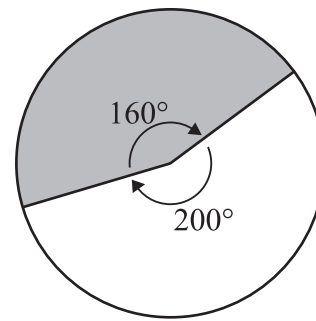
23. Harry is paid \$0.26 per mile for travel he does for his job. The chart below shows the distances between towns.

MAINE MILEAGE CHART	Augusta	Bangor	Biddeford	Brunswick	Lewiston	Portland	Sanford	Waterville
Augusta		76	73	31	30	57	91	227
Bangor	76		149	107	106	133	166	59
Biddeford	73	149		42	50	16	18	92
Brunswick	31	107	42		18	26	60	50
Lewiston	30	106	50	18		34	68	49
Portland	57	133	16	26	34		34	76
Sanford	91	166	18	60	68	34		110
Waterville	227	59	92	50	49	76	110	

How much will the company pay him for a **round-trip** between Brunswick and Sanford?

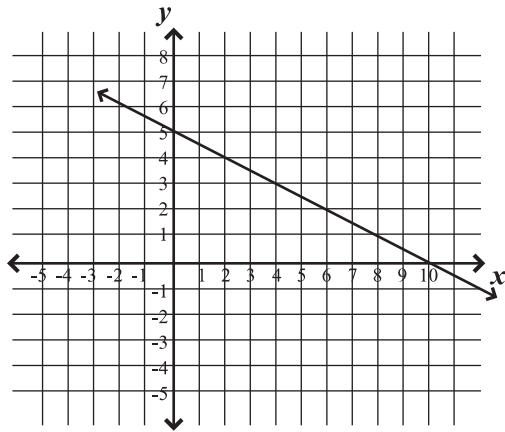
- ☐ A. \$ 26.00
☐ B. \$ 31.20
☐ C. \$260.00
☐ D. \$312.00
24. How does 80% of a positive number compare with the original number?
- ☐ A. It is equal to that number.
☐ B. It is greater than that number.
☐ C. It is less than that number.
☐ D. It depends on the number.
25. Which of the following measurements would **most likely** be given with a **negative** exponent in scientific notation?
- ☐ A. the diameter of a blood cell in centimeters
☐ B. the distance to the Sun in kilometers
☐ C. the weight of a pencil in grams
☐ D. the mass of a refrigerator in kilograms

Use the picture below to answer question 26.



26. If a dart hits somewhere in the circle, what is the probability it will land in the shaded area?
- ☐ A. $\frac{2}{5}$
☐ B. $\frac{4}{9}$
☐ C. $\frac{5}{11}$
☐ D. $\frac{5}{8}$
27. Twenty-five glass tree ornaments were selected at random from a shipment of 1500 glass tree ornaments. If 4 ornaments in the sample were broken, how many broken ornaments should be expected in the entire shipment?
- ☐ A. 15
☐ B. 60
☐ C. 100
☐ D. 240
28. How many different ways can the letters in the word **math** be arranged?
- ☐ A. 4
☐ B. 8
☐ C. 16
☐ D. 24

Use the graph below to answer question 29.



29. Which table describes points that are all on the line shown above?

☐ A.

x	y
0	5
5	2.5
10	0

☐ B.

x	y
5	0
2.5	5
0	10

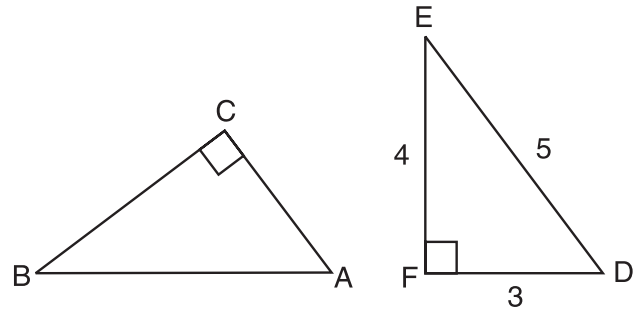
☐ C.

x	y
10	5
7.5	7.5
5	10

☐ D.

x	y
5	10
7.5	7.5
10	5

Use the figures below to answer question 30.



30. If $\triangle ABC$ is congruent to $\triangle DEF$, what is the length of side \overline{AC} ?

- ☐ A. 3
- ☐ B. 4
- ☐ C. 5
- ☐ D. There is not enough information to tell.

31. Which ordered pair (x,y) is part of the solution set of the equation below?

$$y = x^3 + 1$$

- ☐ A. $(0,-1)$
- ☐ B. $(0,1)$
- ☐ C. $(1,4)$
- ☐ D. $(2,8)$

32. What number comes next in this sequence?

5, 6, 9, 14, 21, ____

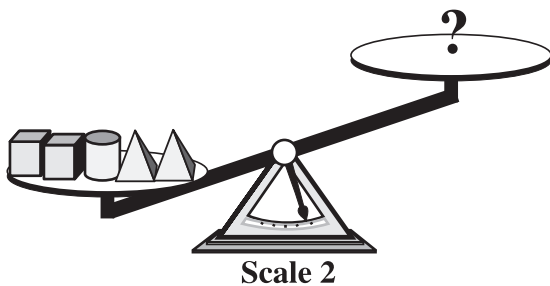
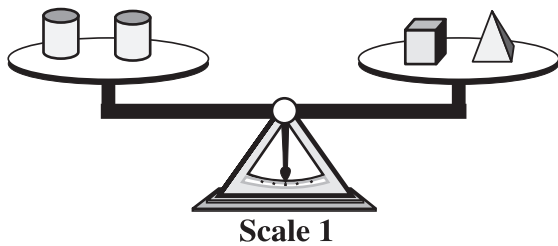
- ☐ A. 26
- ☐ B. 27
- ☐ C. 30
- ☐ D. 32

33. Which of the following **must** be true of any number that is evenly divisible by 6?

- I. It is divisible by 3.
- II. It is an even number.
- III. Its units digit is 6.
- IV. The sum of its digits is 6.

- ☐ A. II and IV
- ☐ B. II and III
- ☐ C. I and II
- ☐ D. I and IV

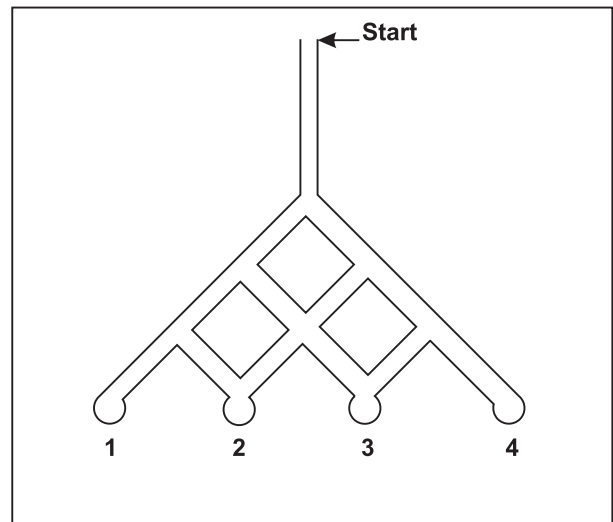
Use the balance scales below to answer question 34.



34. How many cylinders must be placed on the empty side of Scale 2 to make that scale balance?

- ☐ A. 2
- ☐ B. 3
- ☐ C. 4
- ☐ D. 5

35. Tom made the game board shown below.



Small marbles start at the top and always roll down the marked paths until they land in one of the circles at the bottom. How many different paths can a marble take to land in circle 2?

- ☐ A. 2
- ☐ B. 3
- ☐ C. 4
- ☐ D. 6

42. Together Bill and his sister Shelly want to earn \$575 by the end of the summer. To earn the money, they share a paper route and want to start a summer business entertaining at birthday parties. To do so, they must first purchase one clown costume and one dragon costume.
- A clown costume will cost \$40.00 and a dragon costume will cost \$60.00. Currently Bill and Shelly have a total of \$25.00; their paper route adds \$12.50 to their savings each week. How many more weeks will they need to work their paper route to purchase the two costumes? Show all work.
 - Bill and Shelly have estimated that it will cost them \$25.00 for supplies to entertain at each party so they have decided to charge \$60.00 per party. Once they have their costumes, they will have five weeks left in the summer to reach their goal of \$575 with the income from the paper route and birthday parties. How many parties per week will they have to book to meet their goal? Show all work or explain your answer.

42.

43. The coach for the All-Star Basketball Game needs to pick one of two players for the team. The table below shows the number of points each of the players scored in his last 10 games.

Name of player	Number of points scored in last ten games
Geltz	18, 32, 28, 18, 14, 28, 10, 16, 36, 20
Luna	22, 17, 23, 8, 24, 24, 22, 20, 18, 22

- Find the mean (average) number of points scored by each player. Show or describe how you found the means.
- Find the median number of points scored by each player. Show or describe how you found the medians.
- Based on the data, which player would you recommend for the All-Star team? Explain your recommendation.

43.

Visual and Performing Arts

Released Items

1. Choose a theatrical production with which you are familiar. Explain how three of the elements listed below could be used in your production to create an impact on the audience.

sets

light

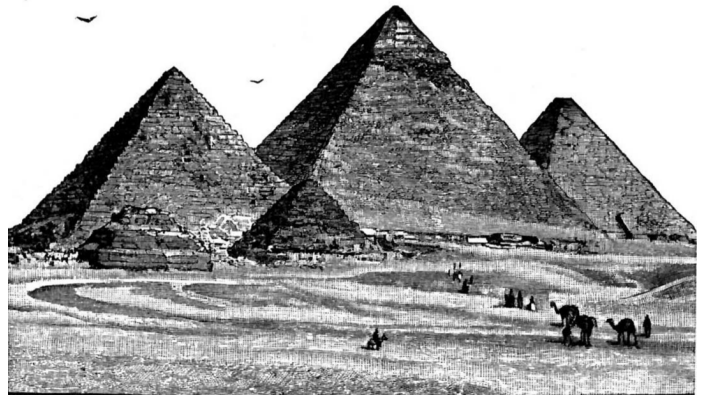
costumes

props

makeup

1.

Use the pictures below to answer question 2.



2. Structures can have different functions. For instance, a house provides shelter and a museum preserves artifacts.

Discuss the function of Chartres Cathedral and of the pyramids. How was each structure designed to meet its function?

Answer #2 on the next page.

2.